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ABSTRACT

The relationships among motivational orientations of entering university freshmen, their involvement in social and academic systems, and persistence/attrition were studied at Arizona State University. Also considered was the applicability of Tinto's theory, which suggests that if background and commitments are equal, the greater the integration of the individual into the system, the greater will be the commitment to the institution and to the goal of college completion. For the random sample of 185 first-year students who were mailed surveys, usable responses were received from 124. The survey combined Boshier's Educational Participation Scales, Pascarella and Terenzini's Institutional Integration Scales, and 21 questions about students' background and participation in college activities. Based on factor analysis and LISREL-VI analysis, findings included: both academic and social integration directly influenced persistence, while satisfaction had almost no effect on persistence. Two background characteristics that had the greatest effect on persistence were mother's and father's level of education. A chart illustrating the operationalization of the Tinto model is provided, along with a list of variables covering student background, academic integration, social integration, and commitment. (SW)

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Motivational Orientation Within the Tinto Model of College Withdrawal

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March 15, 1985

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This paper was presented at the Annual Meeting of the Association for the Study of Higher Education held at the Palmer House Hotel in Chicago, Illinois, March 15-17, 1985. This paper was reviewed by ASHE and was judged to be of high quality and of interest to others concerned with the research of higher education. It has therefore been selected to be included in the ERIC collection of ASHE conference papers.

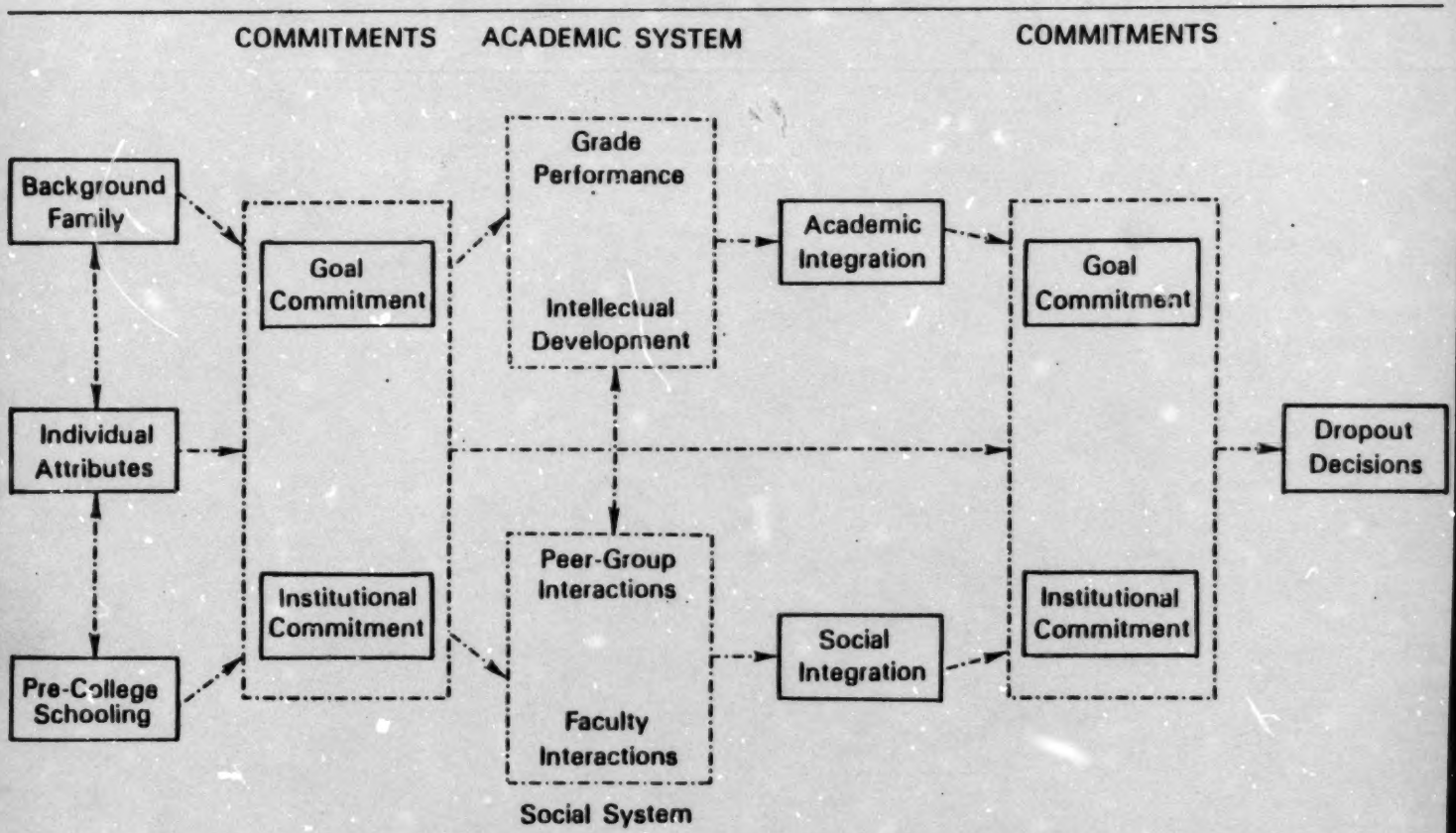
Motivational Orientation Within the Tinto Model of College Withdrawal*

This study was conducted as a pilot to test instruments for a doctoral dissertation. It employed a measure of motivational orientation as a blocking factor in an analysis of college withdrawal. Although the sample size (N=124) was too small for drawing theoretical conclusions, preliminary analyses are very interesting.

Tinto (Figure 1) viewed the dropout phenomenon as a longitudinal process of interactions between the individual and the academic and social systems of a college during which a person's experiences in those systems continually modify goal and institutional commitments in ways which lead to persistence and/or varying forms of dropout. Tinto suggested that path analysis utilizing longitudinal data would be an appropriate technique for studying dropout behavior. According to this theory if background and commitments are equal, the higher the degree of integration of the individual into the system, the greater will be the commitment to the institution and to the goal of college completion.

*This project was funded by the Graduate Student Research Program at Arizona State University.

Figure 1


COMMITMENTS
ACADEMIC SYSTEM
COMMITMENTS
Background Family
Individual Attributes
Pre-College Schooling
Goal Commitment
Institutional Commitment
Grade Performance
Intellectual Development
Peer-Group Interactions
Faculty Interactions
Social System
Academic Integration
Social Integration
Goal Commitment
Institutional Commitment
Dropout Decisions

Recen. research, based upon Spady's (1970, 1971) and Tinto's (1975) longitudinal process models of attrition/persistence has explored the links among the background characteristics of students, the social and academic integration of those students within the college or university system, and ultimately their persistence or withdrawal. These studies (Pascarella and Terenzini, 1979, 1980, 1983; Terenzini and Pascarella, 1980, 1982; Terenzini, Lorang and Pascarella, 1981) have explained modest proportions of the variance in attrition. By disaggregating analysis according to groups that were hypothesized to be similar such as students of the same sex (Pascarella and Terenzini, 1983) or students who had chosen to attend similar institutions (Pascarella and Chapman, 1983) researchers were able to increase explained variance. In Pascarella and Terenzini (1983) reported explained variance for their pooled sample as .181, while for males alone it was .185 and for females it was .195. Pascarella and Chapman conducted path analysis on a pooled sample resulting in .120 explained variance; with disaggregation of data by institutional type explained variances increased to .154 for four-year residential institutions, and .150 for two-year commuter institutions. It declined to .108 for four-year commuter institutions. In addition, differences in types of students, as well as differences among types of institutions, were found to have significant effects on experiences and on persistence/attrition.

While these increases in explained variance are modest, they do suggest the need for further analysis to differentiate among types of students to better explain attrition.

Researchers working within the Tinto framework have consistently found what has been termed a compensatory relationship among variables (Pascarella and Terenzini, 1983; Pascarella and Chapman, 1983; Terenzini and Pascarella, 1980). Examination of interactions has demonstrated that academic integration has its strongest positive influence on persistence at relatively low levels of social integration. As the level of social integration increases, the positive influence of academic integration on persistence becomes less pronounced. The same compensatory relationship is true for the influence of social integration on persistence at different levels of academic integration. Similar relationships exist between commitment to the goal of graduation and commitment to the institution. Attempts to further explain these relationships by disaggregating analyses using demographic differences among students have been relatively unsuccessful. The purpose of this study was

to examine the compensatory effects of nondemographic differences among students on the attrition/persistence process within the Tinto model.

Motivational Orientation

Boshier designed the Education Participation Scales to measure adults' motivations for participation in educational situations (Boshier, 1977, 1971). The scale, which has also been used to determine motivations of traditional age students, categorizes students according to motivations based on a factor analysis of scores on 40 items designed to elicit reasons for participation in education. Categories of reasons for educational participation previously found include: social relationships, external expectations, professional advancement, and cognitive interest (Wolfgang and Dowling, 1981).

The focus of this study was to explore the links among motivational orientations of entering university freshmen, their subsequent involvement in the social and academic systems of the university, and persistence or attrition. Data was obtained from three sources: (1) institutional records on entering freshmen, (2) an instrument combining the Education Participation Scale (EPS) and the Institutional Integration Scale (IIS) developed by Pascarella and Terenzini, and other questions related to student background

and participation in university activities, and (3) registration information on students for the fall semester of their sophomore year.

Research questions included the following:

1. What is the explanatory power of Tinto's theoretical model of college persistence/attrition in this institutional setting?

2. What are the motivational orientations of university freshmen?

3. Does motivational orientation affect subsequent patterns of attendance for university freshmen?

4. To what extent is it possible to identify specific patterns of social and academic involvement which are particularly important in positively influencing persistence for students with particular motivational orientations?

Method

Sample: The model was tested on a random sample of first-year student who were new to Arizona State University in the fall of 1983. Surveys were mailed to 185 students in April of 1984. After a postcard and survey mailing follow-up, usable responses were obtained from 63 percent of the original sample.

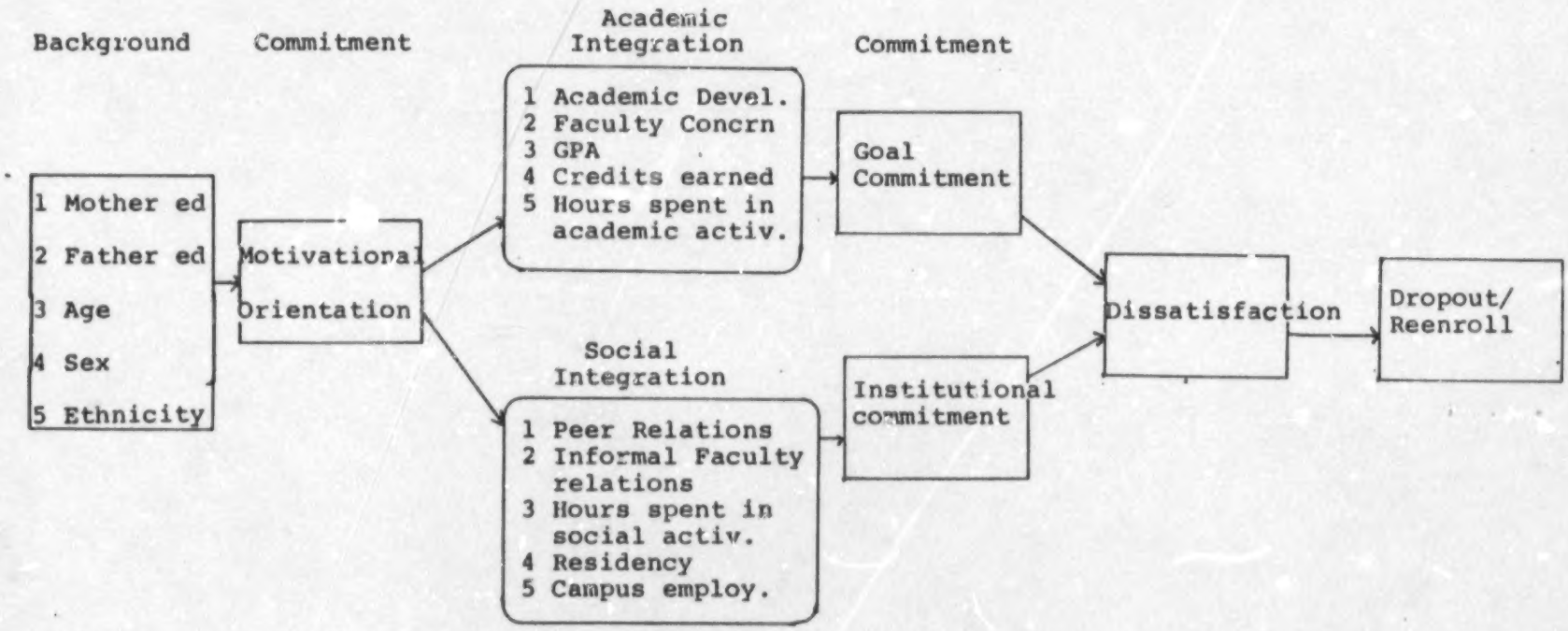
The survey was a 91 item instrument which combined the Educational Participation Scales, developed by Boshier, the Institutional Integration Scales from Pascarella and Terenzini, and 21 questions eliciting background information and information regarding participation in university activities. Additionally, students were asked two "open-ended" questions regarding experiences which have helped them feel out of place or more comfortable in the University setting.

In the fall of 1984 an examination of institutional records yielded GPA (grade point average) and registration information. Of the 116 students, 28 did not re-register the following fall. Of those who did not reregister, 14 had been academically disqualified.

Variables: Constructs within the Tinto model were operationalized as follows (Figure 2):

Figure 2

OPERATIONALIZATION OF THE TINTO MODEL



Background Characteristics

1. Mother's Education (5 categories from 12 years to graduate or professional school)
2. Father's Education (same as above)
3. Age
4. Sex (1 = female, 2 = male)
5. Ethnicity (0 = Black, Chicano or American Indian, 1 = Anglo or Asian)

Academic Integration: Sum of the following:

1. Academic Development - mean score of seven items from IIS scale
2. Faculty Concern - mean score of five items from IIS scale

and

3. First-year cumulative grade point average
4. First year hours earned X (.1)
5. Number of hours per week spent engaged in production or performance activities (e.g. band, theatre), publications, and professional clubs X (.2)

Social Integration: Sum of the following

1. Peer group relations - mean score of seven items from IIS scales

2. Informal Faculty relations - mean score of five items from the IIS Scales

and

3. Number of hours per week spent engaged in the extracurricular activities such as athletics, intramurals, sororities, social clubs and residence hall activities X .1
4. Campus residency (1 = yes, 2 = no) X (-1)
5. Campus employment (1 = yes, 2 = no) X (-1)

Commitment - sum of the following

1. Goal Commitment: Mean score on two IIS items
2. Institutional Commitment: Mean score on three IIS Items

Satisfaction: One item coded inversely. "I am dissatisfied with my experiences at Arizona State University."

Persistence: The dependent variable was coded as an interval variable in the following manner:

1	0 = no further enrollment after Spring 1984
.2	1 = summer enrollment only after Spring 1984
.8	2 = part time enrollment (<12 hours) in Fall 1984
1	3 = full time enrollment in Fall 1984
1.2	4 = full time enrollment (>15 hours) in Fall 1984

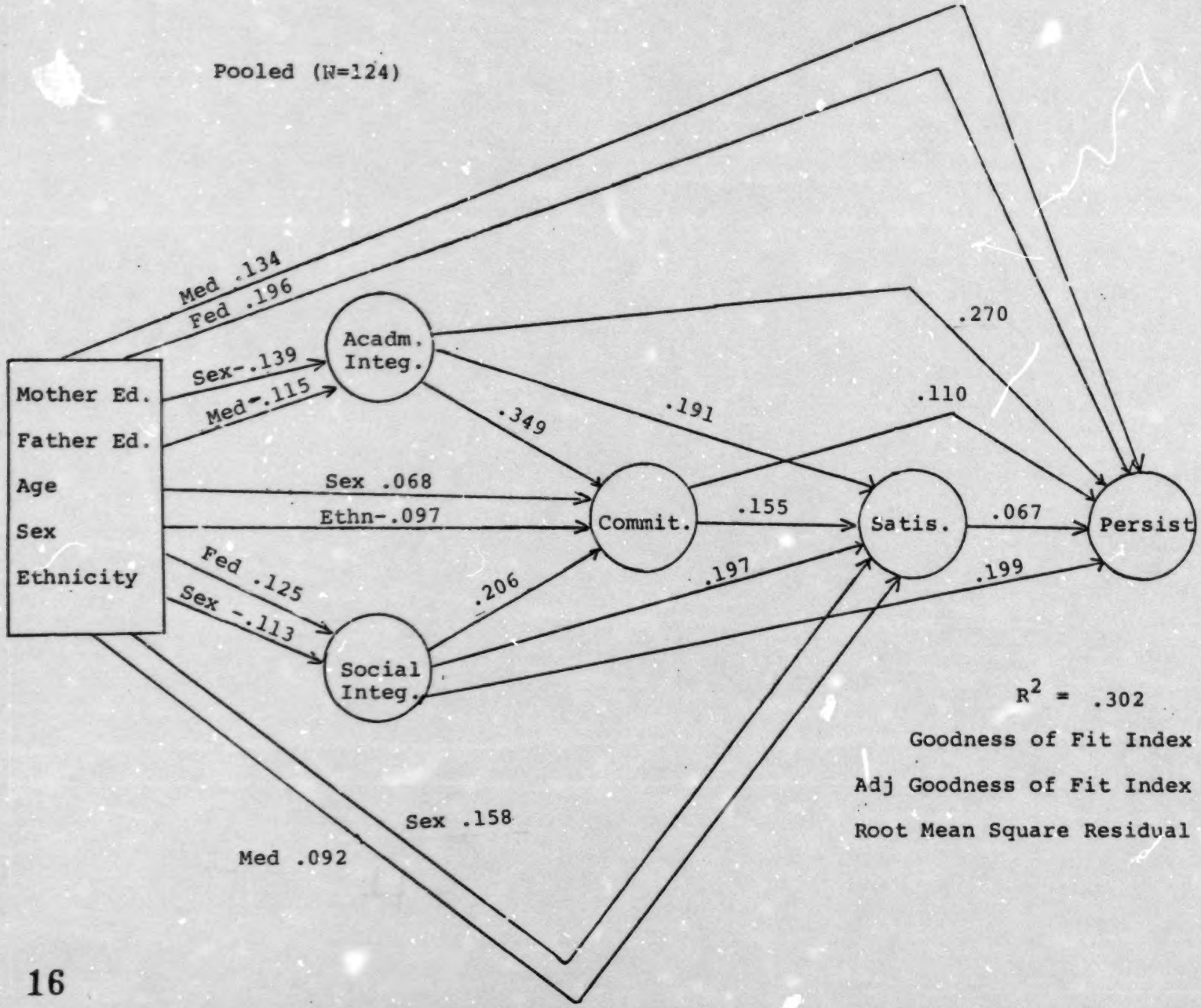
Statistical Analysis

Factor Analysis and LISREL-VI analysis were the principal statistical procedures employed.

A principal component factor analysis of responses to the EPS was conducted. An oblique rotation with a specified delta of -.9 was used to obtain eleven terminal factors. Students' mean scores within each category were computed, and the results were examined in order to obtain six primary classifications of Motivational Orientation. The six final categories were: Social Reasons (16 students), Cognitive Learning (38 students), Recommendation of Others (13 students), Certification* (30 students), To Compete (11 students), and Other (16 students).

The LISREL analysis of the pooled sample resulted in explained variance of 30.2% (Figure 3). The result is consistent with Tinto based research despite the fact that no initial measure of institutional and goal commitments were

*The Certification category was somewhat problemmatic in that nearly every student surveyed responded that the indicator items (To secure professional advancement; To give me higher status in my job; To increase my job competence; To help me earn a degree, diploma, or certificate) strongly influenced their decision to enroll. In order to increase the discriminatory power of this factor, students classified in the Certification category were those whose mean score in the category was greater than 93 percent of their responses to each of the 40 items.



R^2 = .302

Goodness of Fit Index = .935

Adj Goodness of Fit Index = .677

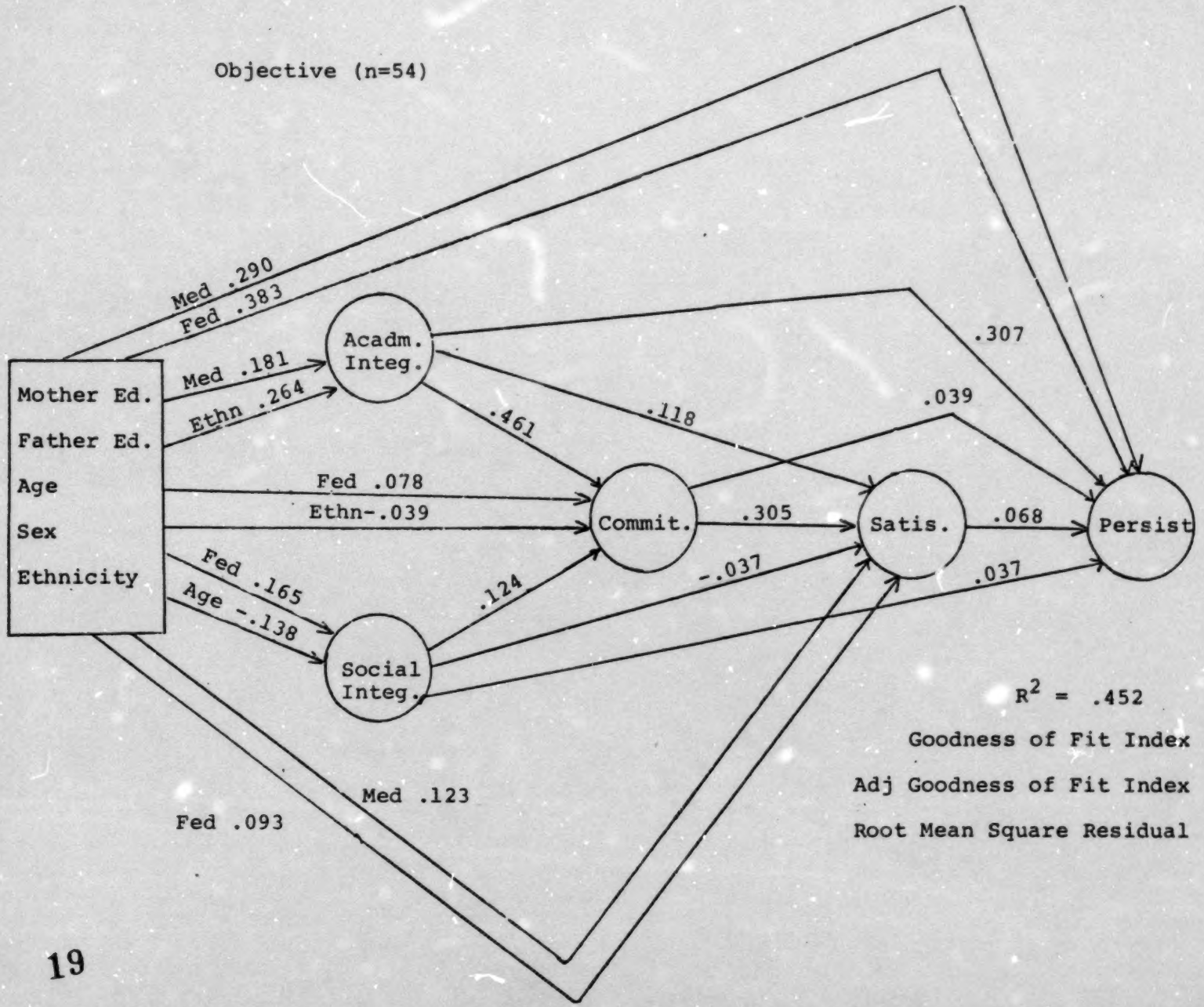
Root Mean Square Residual = .086

taken. Both academic and social integration directly influenced persistence. Additionally, each had direct influences upon commitment which, in turn, directly influenced persistence. Each also affected satisfaction directly. Surprisingly, however, satisfaction had almost no effect upon persistence.

An examination of a standardized solution revealed that the two background characteristics which had the greatest effect on persistence were level of mother's education and level of father's education. The Goodness of Fit Index for the model was .935.

Because of the small total sample size only the Cognitive Learning category (n = 38) contained enough subjects to conduct a separate LISREL analysis. The remaining five categories of motivational orientations were collapsed into two groups. One, termed Objective, were those who had been initially classified in the Recommendation, Certification or Compete categories (n = 54). The third group, Social and Others, consisted of those who had been classified in the Social or Other reasons categories (n = 32).

Figures 4, 5 and 6 represent the LISREL-VI analysis for the Objective, the Social and Other and the Cognitive Groups. Because of the small numbers used in these analyses,

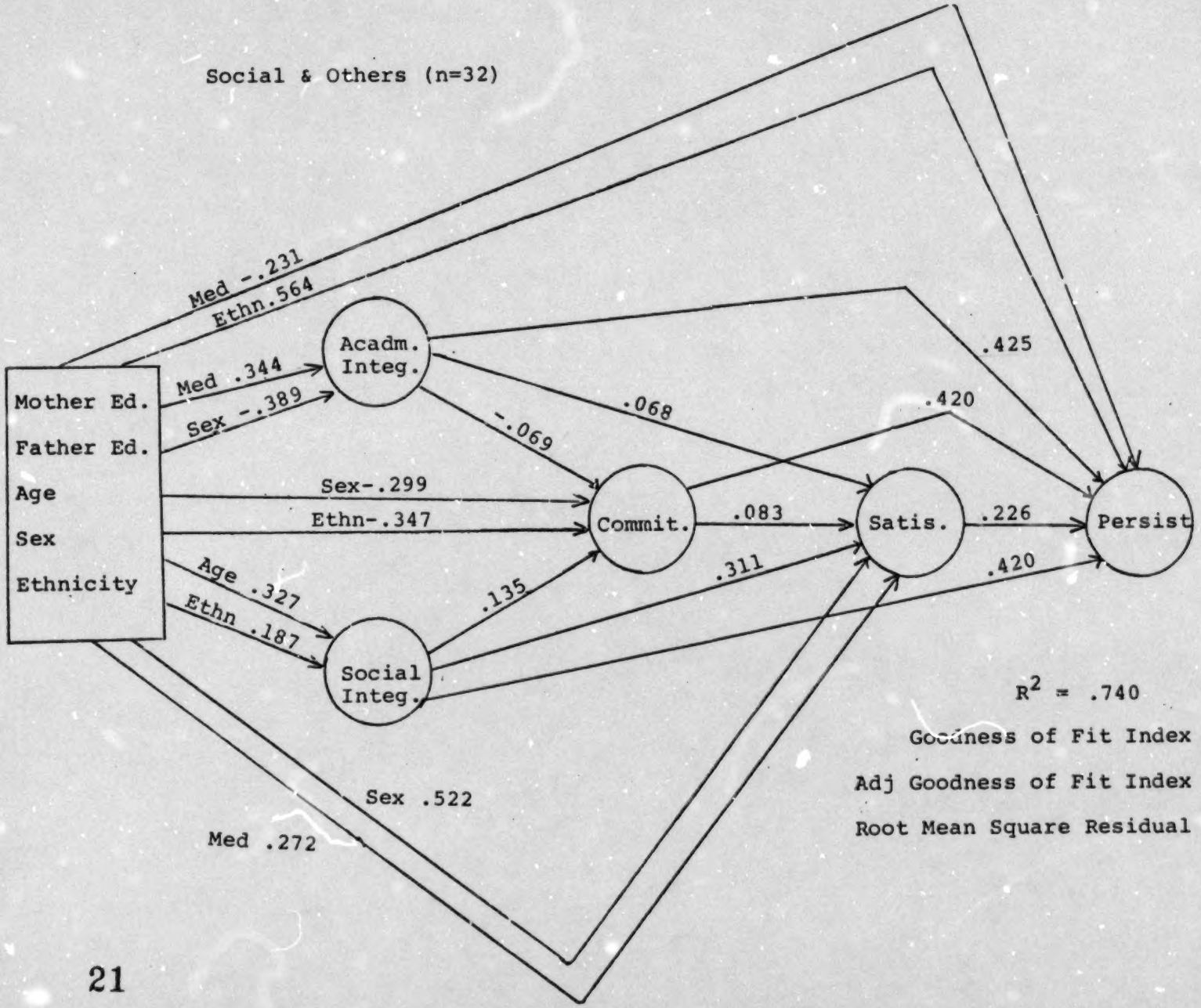


R^2 = .452

Goodness of Fit Index = .903

Adj Goodness of Fit Index = .517

Root Mean Square Residual = .112

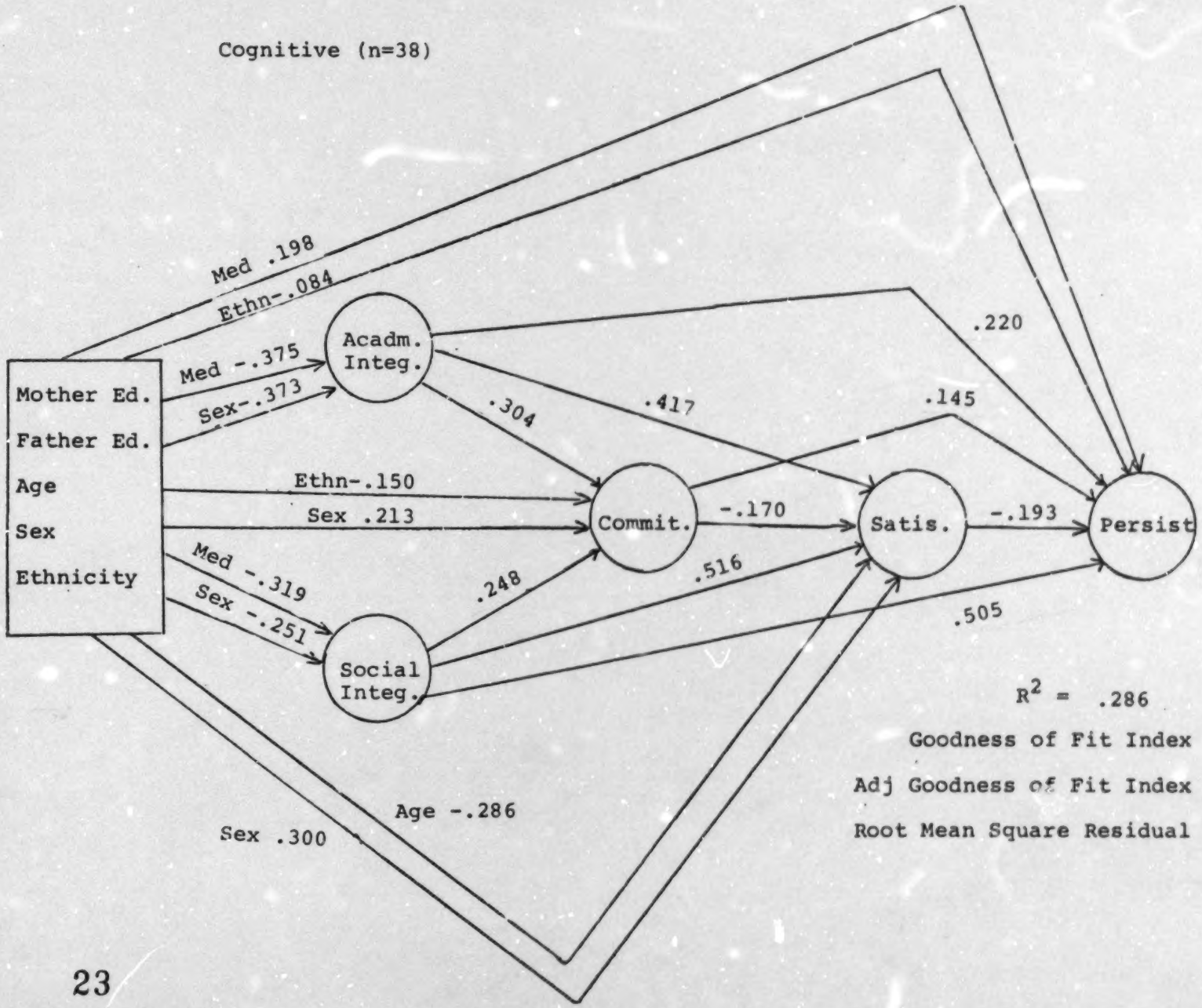


R^2 = .740

Goodness of Fit Index = .970

Adj Goodness of Fit Index = .850

Root Mean Square Residual = .063



R^2 = .286

Goodness of Fit Index = .911

Adj Goodness of Fit Index = .556

Root Mean Square Residual = .108

particularly for the Social and Others Groups, caution must be used in interpreting results. Disaggregation by motivational orientation category and subsequent analysis yielded an R^2 of .452 for the objective group, .740 for social and others, and .286 for the cognitive group.

For the objective group the strongest predictors of persistence were academic integration, father's education and mother's education. Social integration had a small effect on persistence. Surprisingly, for this group commitment had almost no effect on persistence. Again there existed almost no relationship between satisfaction and persistence.

For the social and others category the strongest predictors of commitment were academic integration, social integration, commitment and ethnicity. Mother's education had a negative effect on persistence and satisfaction, a positive effect.

Analysis for the cognitive group resulted in social integration as a primary predictor of persistence with academic integration, commitment and mother's education having more modest effects. Surprisingly, satisfaction had a negative effect on persistence.

Discussion

Operationalization of the Tinto model in this study proved to be adequate for explanation of variance consistent with other such Tinto based research.

With disaggregation by motivational orientation subgroups differences surface.

Among the most surprising was the implication that for students whose primary reasons for university attendance are cognitive, the ones who are the most socially integrated are most likely to persist. For those who primary reasons for university attendance are objective (goal related), those who are more academically integrated are more likely to persist. One can speculate that perhaps a cognitively oriented student may more naturally become academically integrated at a satisfactory (to themselves) level, and that the greatest difference in these students will be in their relative levels of social integration. For the objective level students of social integration did not effect persistence. The differentiation came with relative levels of academic integration.

Of the background variables only mother's education consistently effected persistence for the pooled group as well as

for the objective and cognitive subgroups. For the social subgroup, however, the effect was negative.

For two of the subgroups, social and objective, explained variance was surprisingly high. This again must be interpreted with caution because of the small n's.

It is not surprising that for the cognitive subgroup explained variance remained low, indeed lower than for the pooled group. Students who attend the university primarily for cognitive reasons probably correspond to groups of students who have been termed academic in studies of student subgroups. Traditionally this subgroup of students has been found to be less subject to the influences of institutions and authority than students of other types. At an institution such as Arizona State University, larger numbers of these students might be inclined to transfer to another institution despite relatively high levels of academic and social integration.

Another surprising result was that satisfaction had almost no effect on persistence. Perhaps this variable only has an effect relative to other opportunities for the student. For example, for the cognitive student perhaps level of satisfaction would have an effect when considered vis-a-vis

opportunities to study at other institutions deemed more desirable by the student.

It would be risky to draw conclusions from analyses based on the relatively small sample sizes. Nevertheless, the results indicate that disaggregation of data for analysis based on non-demographic differences among students should be further explored.

Limitations

The chief handicap in these analyses was the small size of the initial pool. This necessitated the collapsing of the six initial motivational orientation categories into three for analysis. Even so, the size of n for the subgroups was small.

Due to the ordinal nature of the dependent variable, persistence, the LISREL analysis was conducted with an unweighted least squares solution. With use of this procedure it is impossible to obtain significance values for the predictors.

Operationalization of the Tinto model in this study was incomplete. Ideally measures of motivational orientation along with measures of institutional and goal commitments would have been made at the beginning of the students' first semester on campus. For this study, data was collected only

during April of the freshman year. In addition to the lack of initial measure of institutional and goal commitment, this resulted in the loss from the study of any potential subjects who dropped out between September and April.

For parsimony in data analysis (again due primarily to sample size) institutional commitment and goal commitment were collapsed into a single variable--commitment. In retrospect, maintaining the two separate measures might have allowed a clearer analysis.

This study was conducted as a pilot to test instrumentation for a dissertation. The major research is currently being conducted and results should be available after the summer of 1985.

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